September 3, 2012

Kentucky Science Center – Early Childhood Education Platform

The Science Center has a trusted past, an active present and a solid future vision for early childhood education that is linked to long term economic vitality in Louisville and Kentucky. The Science Center serves families with young children in significant number, encouraging early learners and their caregivers to put proper focus on developing 21st Century learning skills. Science Center experiences (exhibits, programs, resources) exist at the nexus of curiosity, critical thinking, problem solving, communication and creativity. Offerings promote learning through the lens of science, technology, engineering and math, encouraging the connection between healthy families, empowered community and aspirations for education and career attainment.

Our past in early childhood education:

Since our origins in the 1800's, our museum has been a destination for families with children. Who could resist the iconic mummy, polar bears, gems collection, whale skeleton and other wild game specimens? But our early childhood focus developed most solidly in the 1980's when approached by the Junior League of Louisville about doing a "children's museum" in the city. From that partnership, in 1987, emerged KidSpace (3,500 square feet) followed by an upgraded KidZone (5,000 square feet) gallery addressing the educational needs of children ages 0-7. This protected-access exhibition area has been popular with the resident base and is clearly a driver for center membership purchases. In 2008, the KidZone water table was upgraded, along with a handful of other cosmetic improvements in the gallery. Members-only mornings have been a tradition in the space for years, and special activity sessions often include story time and special science-themed crafts.

In summer of 2009, the adjacent Science Education Wing (SEW) opened; thanks in part to a gift by the James Graham Brown Foundation. With its only building-to-building connection through KidZone, the SEW offers the *Curiosity Lab* — a specifically designed early childhood science lab—as part of its constellation of lab and educational spaces. This lab houses preschool camps during out-of-school times, and early childhood programs such as "Messy Afternoons" which offer drop-in opportunities for the Science Center's littlest scientists to explore in an age-appropriate (and messy) manner.

Our present in early childhood education: For the recent three years, the Science Center has benefitted from a more than $600,000 investment (in two grant cycles) from the PNC Foundation as part of the nationwide *Grow Up Great with Science* initiative. Through this program, the Center has further explored and strengthened its positioning in the early education market and expanded programs and services to families with young children. Particular pieces of this project allowed the Science Center to directly interface with parents/caregivers and their children (i.e. through family science nights, science festivals, family memberships, "do science at…" kits, community-based parent trainings). The third year of funding included the identification of family and teacher cohorts in Bowling Green, Owensboro and Lexington – extending best practices from the Louisville effort out into other parts of the state. This multi-faceted program now reaches 530 classrooms at 121 early childhood sites reaching 5,967 families across these Kentucky communities.

The Science Center also serves as the initial program provider for the Parklands of Floyd's Fork, offering a variety of preschool programs at the outdoor park facility approximately 15 miles outside of downtown Louisville. These include workshops for children and caregivers together, as well as adult-only opportunities for caregivers and parents to get comfortable "doing science" in the out of doors. An outdoor festival called DirtFest recently attracted more than 300 people for a day of playing and learning!

From June through December, 2010 the Science Center hosted *Sesame Street: The Body* in its temporary gallery space and saw growth in early-learner family audience and membership purchases.

School's Out Science Camps are now attracting roughly 100 pre-school age (age 4 and 5) children for half-day experiences, and nearly 200 Kindergarten/First grade age children (ages 5 and 6) for full day camp experiences each summer. Camps, in general, were a new initiative started in the winter of 2008. In total more than 2,000 children annually, ages 4 – 13, are now served by this science enrichment program. We are presently in discussions with Toyota Motor Manufacturing to fund a week of spring break camp, spring 2013, in Georgetown, KY.

Future vision – embracing state designation:

Designated the "state science center of Kentucky" by the 2002 General Assembly and newly rebranded as Kentucky Science Center, the Science Center has a meaningful history and a demonstrated connection with constituents and stakeholders from across the Commonwealth and the region. Roughly 40% of our typical annual visitors (and 41% of school visitors) are from outside the immediate 5-county market, and include residents of other Kentucky counties, Indiana and an array of other states. Of our 7,428 member households, more than 20% are KY residents *outside* of our immediate market.

Performing in step with this designation and poised to expand stakeholders and constituents, the Science Center is developing programming and an operating platform which conveys a prevailing openness and responsibility to partnering, collaborating and engaging the total citizenry of Kentucky and the region. This includes by example:

- Minimum of 10% Board of Directors membership from outside Jefferson County
- Regional program, educational and industry partners including as example the Governor's office of Early Childhood Education, the State Department of Education, and Lexmark International
- A new mobile outreach program (*Captain Current vs. the Electricity Vampires*, powered by LGE/KU) that launches this 2012/13 school year, serving as a guide for developing a future fleet of programs and vehicles traveling the state to bring science education TO schools
- An elevation of distance learning programs, including the dissemination of the groundbreaking Pulse of Surgery program which provides an interactive video conference session with an active cardiothoracic surgical team at Jewish Hospital and a

comprehensive health/wellness, physiology/anatomy, and medical career curriculum to middle and high school students.

The Science Center is focused on offering a strong and exciting set of offerings at our flagship facility on West Main Street in Louisville, which then ensures a strong ability to translate best practices to communities around the Commonwealth in ways that are accessible and community-centric.

Future vision – elevating early childhood education:

The Science Center has embraced a vision for expanding early childhood services and galvanizing recent momentum with efforts to support early science learning, and has formalized intentions to build a "community hub" for early science learning that can also channel resources across the state, fulfilling its role as the State Science Center of Kentucky.

As such, the Science Center is embarking on the development of an expanded interactive early childhood exhibit to be permanently housed in our downtown Louisville location on West Main Street and to open in 2014. Partners and collaborators are presently being sought and secured to materialize this vision. This early childhood gallery will incorporate science, technology, engineering and mathematics in an approachable, fun, and hands-on format for children ages 0-7 in one accessible space. This gallery renovation will also inspire a possible network of smaller early childhood centers around the state, modeled after a project we are watching very closely at Discovery Place in Charlotte North Carolina – called Discovery Place KIDS.

This early childhood gallery will be the anchor of a new 5-7 year strategic plan to be unveiled in early 2014 and include the systematic and modular upgrade to the Center's outdated permanent exhibit base and a continuation of statewide impact.

In a deliberate, interval driven approach, five possible phases of the early childhood vision are now unfolding:

1. The Science Center is experimenting with innovative new concepts for serving early learners in the science center environment, absent dramatic play infrastructure elements like the bus, rocket, ambulance, etc in KidZone. We are testing new assumptions about adult/child interaction and parts-rich play through which science learning occurs. This

experiment, called *Science in Play*, was funded inside the Science Center's fiscal 2012 budget, was planned and implemented in coordination with Hands On, Inc. (a museum design firm located in St. Petersburg, Florida), and is now open.

2. *Science in Play* will be evaluated in partnership with Science Center members and visitors, the University of Louisville College of Education & Human Development and also several select special needs partners to help inform the usefulness of the gallery experiences to audiences with autism as well as hearing and visual impairments (i.e. Kosair Charities, Visually Impaired Pre School, Heuser Hearing Institute, Churchill Park Elementary School, Kentucky Autism Training Center). A business plan and exhibition brief for permanent expansion will be developed from key insights and include renovation of existing KidZone and take-over of existing temporary gallery space in the Science Center's first floor. As a living and breathing example of our vision, *Science in Play* is also being used to host prospective permanent gallery donors, and gifts for this larger project are presently being secured. Both PNC Bank and The Gheens Foundation have made commitments to the permanent gallery renovation.
3. Implementation and opening of new early science learning space at the Science Center is targeted for 2014. This estimated total budget for the project is $3,900,000 – which includes a $500,000 fund for ongoing replenishment of expendable and consumable materials. The effort will be "green lighted" once approximately $1,700,000 of the total estimated project funds are secured. The Science Center is $1,150,000 away from that mark.
4. Phase four builds on the innovative experience designed for the flagship building, and then involves "expansion business planning." This phase encompasses the conceptualizing, scoping, and materializing of a plan to translate the essence of this permanent gallery into a "regionalized/community-centric model" through satellite centers, community specific programming, mobile programming or the like.
5. Eventually, we see the Science Center's early childhood education best practices permeating communities across the state as a significant catalyst in improving the culture of science and math learning as a foundation for children and individuals who are better critical thinkers, better communicators, more open minded, problem-solvers and prepared for the workforce of the future – a set of jobs that we cannot even today imagine.